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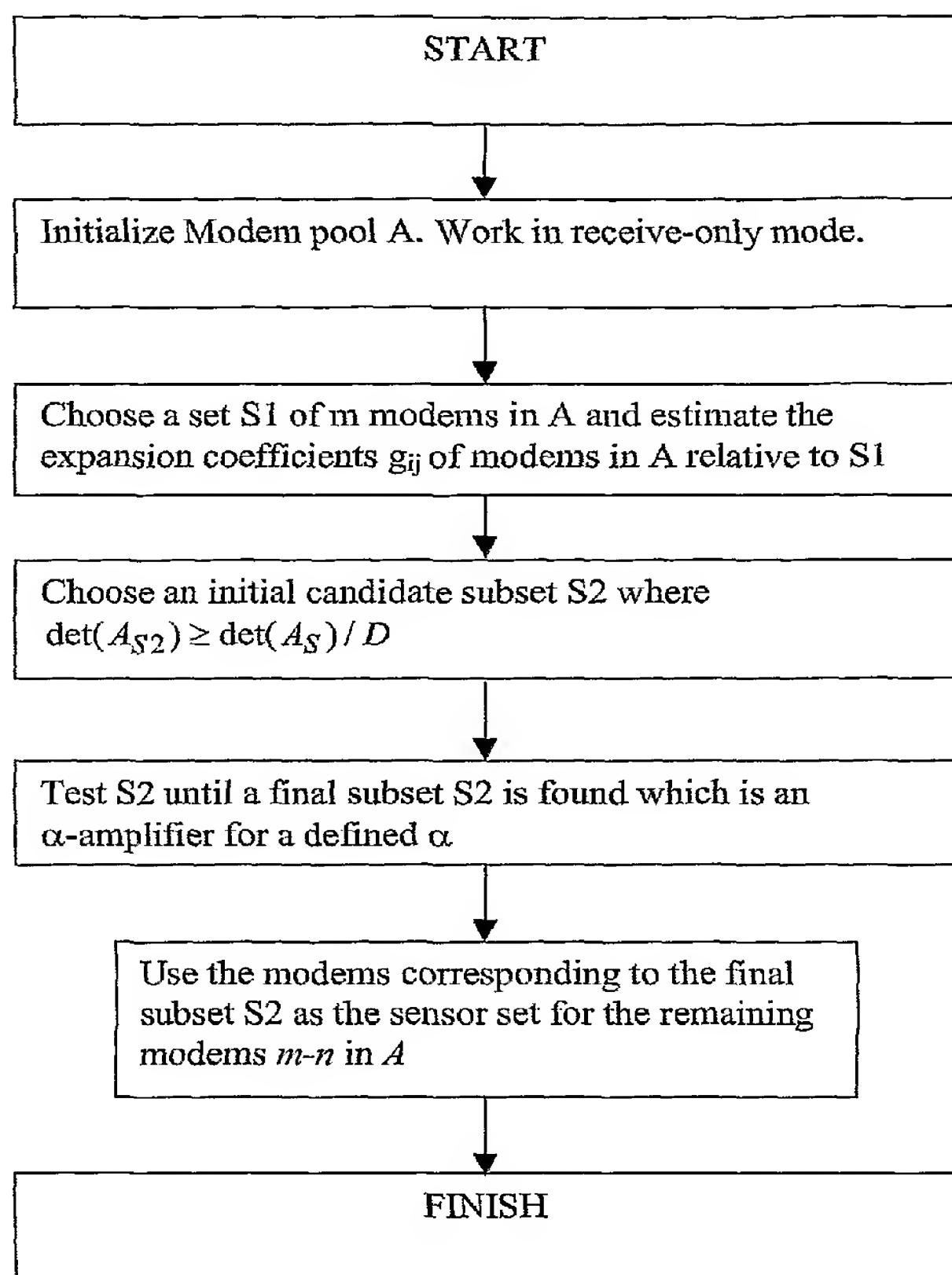
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(54) Title: LINE SENSOR SELECTION FOR QUANTIFYING ALIEN CROSSTALK IN A SHARED COMMUNICATIONS MEDIUM



(57) Abstract: In a communication medium including a first set A of n communication channels and a second set U of m communication channels, a method for selecting sensor channels in A for quantifying crosstalk from U , including operating A in a receive-only mode, choosing a subset S_1 of A , estimating the expansion coefficients of A as a predefined function of subset S_1 and signals received by A , choosing a candidate subset S_2 of size m of A where the determinant of a matrix of the expansion coefficients corresponding to the subset S_2 is greater than that of the expansion coefficients corresponding to any other subset of size m of A divided by a predefined bound D , calculating a threshold alpha, choosing a final subset S_2 that is an alpha-amplifier of alpha, and employing the communications channels in the final subset S_2 as sensor channels for quantifying crosstalk from U .

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